



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,639	09/19/2003	Tamer El-Raghy	DRE-0111	8968
7590	11/17/2005		EXAMINER	
Licata & Tyrrell P.C. 66 East Main Street Marlton, NJ 08053			DANIELS, MATTHEW J	
			ART UNIT	PAPER NUMBER
			1732	
DATE MAILED: 11/17/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/666,639

Applicant(s)

EL-RAGHY ET AL.

Examiner

Matthew J. Daniels

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office Action is response to the Applicant's arguments and response to request for information. New grounds of rejection are presented in this action, and therefore **this action is Non-Final**.

#### *Request for Information and Response to Arguments*

2. Applicant's arguments filed 16 February 2005, including the response to the request for information, have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

a) Claim 1 is amended to state that the former structure is comprised of more than 50% of the claimed MAX material. In contrast, portions of Exhibit A reference a ceramic condom former merely reference a ceramic condom former coated with  $Ti_3SiC_2$ .

b) Withdrawal of issues relating to Dr. Knights' participation in conception and reduction to practice of the instant claimed invention is requested.

c) A copy of a Sponsored Research Agreement is provided as Attachment B. Clear from the agreement is that in no way were the glove and condom formers of the instant invention complete or ready for patenting as of the Sept. 1999 or March 2000 e-mails as required at the time of sale to invoke the "on sale" bar. Also clear from the agreement is that the primary purpose was to conduct experimentation to perfect claimed features, and thus constitutes a permitted activity.

d) Applicants disagree with the Examiner's suggestion that the teachings of Barsoum et al are not directed to a metal. Ti is a metal.  $Ti_3SiC_2$  has properties of both metals and ceramics.

Art Unit: 1732

Accordingly, one would not be motivated to combine the process with that of Adasch in view of Adasch's teachings that metal formers corrode rapidly and are more liable to scratch. Further, Adasch teaches that SiC has a low density, and thus results in dipping formers that are only slightly heavier than those made of porcelain. Barsoum teaches the density of  $\text{Ti}_3\text{SiC}_2$  to be 4.53 grams per cubic centimeter. Accordingly, one would have no motivation to make the substitution due to the greater density of  $\text{Ti}_3\text{SiC}_2$ .

e) The claim limitation of being resistant to acids and alkalis is not taught by the prior art.

f) Claim 3 is patentable by dependence.

3. These arguments are not persuasive for the following reasons:

a) The Applicant's arguments appear to indicate that the Applicant asserts there to be two separate and distinct points of conception and reduction to practice for the methods of making 1) a former comprising a coating of the  $\text{Ti}_3\text{SiC}_2$  material, and 2) a former comprising bulk (or more than 50%)  $\text{Ti}_3\text{SiC}_2$  material. The Examiner respectfully disagrees. The Examiner's position is that the  $\text{Ti}_3\text{SiC}_2$  material and glove/condom dipping formers were each individually known at least one year prior to the Applicant's invention. The Examiner submits that the concept of the instant application is the combination of these two things, each of which was individually known at the time of the invention. The Examiner's position is that the point of conception in this case is the point at which individual(s) conceived using the  $\text{Ti}_3\text{SiC}_2$  material, in either a coating or bulk form, in a dipping former for gloves or condoms. The Examiner further takes the position that both the methods of making 1) a former comprising a coating of the  $\text{Ti}_3\text{SiC}_2$  material, and 2) a former comprising bulk (or more than 50%)  $\text{Ti}_3\text{SiC}_2$  material, share a common point of

Art Unit: 1732

conception. In view of this position, the Examiner submits that the declaration and other evidence provided in this case is still insufficient to show that the instant invention was conceived and reduced to practice exclusively by the Applicants. The Examiner additionally submits that it is not clear from the Applicant's submissions who first conceived the incorporation of the Ti<sub>3</sub>SiC<sub>2</sub> material into dipping formers for gloves or condoms.

b) In view of the Examiner's positions set forth above in part a), the Examiner submits that Dr. Knight and Gromelski both participated in reduction to practice. Conception in this case has not been clearly established. The Examiner's position relating to Dr. Knight's participation is maintained.

c) The Examiner has carefully considered the Sponsored Research Agreement and Attachment A submitted in the response. The Examiner also notes the portions of MPEP 2133.03 pertaining to the "on sale" bar. The Sponsored Research Agreement was executed by Ansell Healthcare products on 20 June 2000 and by the principal investigator on 27 June 2000. The e-mails in question (See copies below of the 26 August 1999, 3 September 1999, and 22 February 2000 e-mails) all occurred prior to the execution of the Sponsored Research Agreement, and thus any activity conducted prior to the execution of the agreement are not protected by any secrecy orders contained therein.

As to the "on sale" bar, the Applicant's arguments appear to assert that the payment "relates only to re-imbursement of costs to Drexel University for raw materials, processing and machining of a solid condom former." (See Page 5 of the 19 September 2005 response, lines 13-15). The Examiner takes the following positions:

Art Unit: 1732

1) *By accepting reimbursement for the making (machining) of a solid condom former, the claimed embodiment, a sale or offer for sale was made.*

While the Applicants' position is noted, it is also noted that a "sale" need not be for profit to bar a patent. In this case, a payment made to reimburse the Applicants for machining the claimed embodiment is deemed to be a public sale, even though no exchange of money occurred until after delivery of the former.

2) *The claimed embodiment was ready for patenting at the time it was provided to the public (Ansell Healthcare) more than one year prior to the instant application.*

The claimed embodiment was provided in a completed condom form to the public. The Examiner finds no evidence to show that further reduction to practice was required. As the 17 February 2000 e-mail from Ansell states, "the former dipped quite well". Thus, it appears to the Examiner that the claimed embodiment was ready for patenting on 17 February 2000.

3) *A bulk sample of the  $Ti_3SiC_2$  material was provided (See 26 August 1999 e-mail below), and this is determined by the Examiner to be experimental use. However, the claimed embodiment (Claim 1) was subsequently provided to the public more than 1 year prior to the instant application.*

Art Unit: 1732

The Examiner submits that experimental use ends when the invention is actually reduced to practice. See MPEP 2133.03(e)(3). The Examiner submits that the responses contained in the 17 February 2000 and 18 February 2000 e-mails from Ansell provide evidence that the claimed embodiment was reduced to practice when it was proven that "the former dipped quite well" (17 February 2000 e-mail) and compared favorably side-by-side with the "typical" formers (18 February 2000). Thus, the Examiner submits that on 17 or 18 February 2000, the invention had been provided to the public and determined to work for its intended purpose. Furthermore, it is noted that the record provides no evidence that the Applicants made efforts to restrict access or disclosure of the testing results until the execution of the Sponsored Research Agreement.

Date: Thu, 26 Aug 1999 07:37:11 -0500

To: sgromels@ansell.com.au

From: Tamer El-Raghy <sg94d216

Subject: Ti3SiC2 Bulk samples

Cc: barsoum

Bcc:

X-Attachments:

Dear Dr.Gromelski

Allow me to introduce my self to you. My name is Tamer El-Raghy, I work with Prof. Barsoum on the ternary carbide; Ti3SiC2.

My understanding is that the bulk sample of Ti3SiC2 passed your test in KOH. Since the process of making a solid glove mold made of bulk Ti3SiC2 needs time and money, we're willing to provide you with smaller samples of other shape, condoms for example, to be tested. If you agree with this idea, please send us drawings and we'll move from there.

I look forward to receiving your reply.

Sincerely,

Tamer

Art Unit: 1732

Date: Fri, 3 Sep 1999 10:25:09 -0500  
To: sgromels@ansell.com.au  
From: Tamer El-Raghy <sg94d216  
Subject: Re: Ti3SiC2 Bulk samples  
Cc: barsoum  
Bcc:  
X-Attachments:



Dear Stan,

I have received the quote from our machinist to machine the solid condom former (not hollow as in the drawings). The total cost for the raw materials, processing and machining will be \$ 2000. The delivery time is around 4 weeks.

If you have any questions, please feel free to contact me. I look forward to receiving your reply.

Sincerely,

Tamer

Date: Tue, 22 Feb 2000 16:08:30 -0500  
From: sgromels@ansell.com  
Subject: Re: Ti3SiC2 Condom Formers  
To: Tamer El-Raghy <tamer.elraghy@drexel.edu  
Message-id: <8525688D.0073E163.00@n\_anred002.ansell.com  
MIME-version: 1.0  
Content-type: text/plain; charset=us-ascii  
Content-disposition: inline  
X-Lotus-FromDomain: PACDUN

Dear Tamer,

Due to new year accounting procedural changes, your payment check was mishandled and probably won't arrive at Drexel until early March. Sorry for the delay.

As to your other question, YES, Ansell would be agreeable to pursuing a joint application for a patent. We, of course, would be interested in slip casting the material to mold a glove/condom former. Have you received the condom former yet? What are your comments? Thanks.

Regards,  
Stan G

Art Unit: 1732

Date: Thu, 17 Feb 2000 11:28:05 -0500  
From: sgromels@ansell.com  
Subject: Re: Ti<sub>3</sub>SiC<sub>2</sub> Condom Formers  
To: Tamer El-Raghy <tamer.elraghy@drexel.edu>  
MIME-version: 1.0  
X-Lotus-FromDomain: PACDUN

Dear Tamer,

After six weeks the former dipped quite well, although there has been some pitting and deterioration. I have sent the former, by UPS, to you today. Please examine it and give me your thoughts about the durability of the Ti<sub>3</sub>SiC<sub>2</sub> material. Thanks.

Regards,  
Stan G

Date: Fri, 18 Feb 2000 15:39:21 -0500  
From: sgromels@ansell.com  
Subject: Re: Ti<sub>3</sub>SiC<sub>2</sub> Condom Formers  
To: Tamer El-Raghy <tamer.elraghy@drexel.edu>  
MIME-version: 1.0  
X-Lotus-FromDomain: PACDUN

Dear Tamer,

Our typical porcelain former that we use today usually lasts 2-3 weeks in our accelerated aging test. Ti<sub>3</sub>SiC<sub>2</sub> lasted 6 weeks with potential to last longer. I am extremely encouraged by this. After you have examined the returned former, we'll talk about the next step. Thanks.

Regards,  
Stan G

d) The Examiner has noted the Applicants' position that Barsoum's material is a metal comprising titanium. However, the article by Barsoum and El-Raghy appears to teach differently. In particular, the article appears to be directed to "Synthesis and Characterization of

Art Unit: 1732

a Remarkable Ceramic:  $Ti_3SiC_2$ " (See the title of the article). While the material contains a metal, namely titanium, it appears that the "Ceramic" is formed by hot pressing at 1600 C and a reaction appears to take place (See Barsoum, Section II. Processing, Page 1953, right column). Thus, the Examiner submits that the character of the material is not one of a metal, but that of a ceramic, as noted by the title. As to the density, Adasch teaches "the dipping formers according to the invention are only slightly heavier than those made from porcelain or aluminum." (1:51-53). While this would suggest to the ordinary artisan that lighter formers are better, it does not appear to teach away from the combination.

e) The Examiner submits that resistance to acids and alkalis is an inherent aspect of the invention of Barsoum and El-Raghy. Applicant's admission in the 26 August 1999 e-mail appears to provide evidence as to the inherency:

My understanding is that the bulk sample of $Ti_3SiC_2$ passed your test in KOH.
--

f) The Examiner submits that Claim 3 is still unpatentable for the reasons set forth in the rejections.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1 and 2** are rejected under 35 U.S.C. 102(e) as being anticipated by Gromelski (WIPO Publication WO 03/051791 A1). **As to Claim 1**, Gromelski teaches a glove or condom former (Page 7, Lines 10-12) comprising  $M_{n+1}AX_n$  (Page 4, Table 1 and Page 7, Line 3) wherein M is a transition metal selected from scandium, titanium, vanadium, chromium, zirconium, niobium, hafnium, and tantalum, or a mixture thereof (Page 4, Table 1); wherein A is an element selected from aluminium, silicon, gallium, germanium, tin, lead and indium, or a mixture thereof (Page 4, Table 1); wherein X is carbon or nitrogen; and n is 1, 2 or 3 (Page 4, Table 1). The Examiner submits that corrosion resistance to alkalis and acids is inherent in Gromelski's former. The Examiner also submits that by slip casting, Gromelski's former is greater than 50% of the MAX phase. **As to Claim 2**, Gromelski teaches a glove or condom former where M is titanium, A is selected from silicon, germanium, or aluminium, X is carbon and n is 2 (Page 7, Line 7). Corrosive resistance is inherent in Gromelski's article.

5. **Claim 3** is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gromelski (WIPO Publication WO 03/051791 A1) in view of Applicant's admitted prior art (Pages 1-2 of the Written Description). Gromelski teaches the subject matter of Claims 1 and 2. Gromelski also teaches a method for producing a latex or synthetic polymer glove or condom comprising: (a) dipping the glove or condom former of claim 1 in a liquid latex or synthetic polymer bath (Page 1, Line 13-15); and (c) releasing the formed latex or synthetic polymer glove or condom from the former (Page 1, Line 19-20). Gromelski does not specifically teach (b) allowing the latex or synthetic polymer coating to dry on the

Art Unit: 1732

former. However, inherently the condom/glove must dry in order for it to be removed from the former. However, in the alternative, it would have been prima facie obvious to allow latex or synthetic polymer coating to dry on a former to produce latex polymer gloves or condoms given Applicant's admitted prior art teaching to do such a drying operation (Page 2, Line 2-5). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to have included a step of allowing the latex or synthetic polymer coating to dry on the former in the method of Gromelski in order to prevent the gloves/condoms being removed from sticking together. Also, allowing the latex to dry will permit the product to be easily removed.

6. **Claims 1 and 2** are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention. The following portions of the Applicants' admissions are relied upon for showing that public use or sale of the invention occurred more than one year prior to the date of the invention:

Art Unit: 1732

Date: Thu, 26 Aug 1999 07:37:11 -0500

To: sgromels@ansell.com.au

From: Tamer El-Raghy <sg94d216

Subject: Ti3SiC2 Bulk samples

Cc: barsoum

Bcc:

X-Attachments:

Dear Dr.Gromelski

Allow me to introduce my self to you. My name is Tamer El-Raghy, I work with Prof. Barsoum on the ternary carbide; Ti3SiC2.

My understanding is that the bulk sample of Ti3SiC2 passed your test in KOH. Since the process of making a solid glove mold made of bulk Ti3SiC2 needs time and money, we're willing to provide you with smaller samples of other shape, condoms for example, to be tested. If you agree with this idea, please send us drawings and we'll move from there.

I look forward to receiving your reply.

Sincerely,

Tamer

Date: Fri, 3 Sep 1999 10:25:09 -0500

To: sgromels@ansell.com.au

From: Tamer El-Raghy <sg94d216

Subject: Re: Ti3SiC2 Bulk samples

Cc: barsoum

Bcc:

X-Attachments:



Dear Stan,

I have received the quote from our machinist to machine the solid condom former (not hollow as in the drawings). The total cost for the raw materials, processing and machining will be \$ 2000. The delivery time is around 4 weeks.

If you have any questions, please feel free to contact me. I look forward to receiving your reply.

Sincerely,

Tamer

Art Unit: 1732

Date: Tue, 22 Feb 2000 16:08:30 -0500  
From: sgromels@ansell.com  
Subject: Re: Ti3SiC2 Condom Formers  
To: Tamer El-Raghy <tamer.elraghy@drexel.edu>  
Message-id: <8525688D.0073E163.00@n\_anred002.ansell.com>  
MIME-version: 1.0  
Content-type: text/plain; charset=us-ascii  
Content-disposition: inline  
X-Lotus-FromDomain: PACDUN

Dear Tamer,

Due to new year accounting procedural changes, your payment check was mishandled and probably won't arrive at Drexel until early March. Sorry for the delay.

As to your other question, YES, Ansell would be agreeable to pursuing a joint application for a patent. We, of course, would be interested in slip casting the material to mold a glove/condom former. Have you received the condom former yet? What are your comments? Thanks.

Regards,  
Stan G

Date: Thu, 17 Feb 2000 11:28:05 -0500  
From: sgromels@ansell.com  
Subject: Re: Ti3SiC2 Condom Formers  
To: Tamer El-Raghy <tamer.elraghy@drexel.edu>  
MIME-version: 1.0  
X-Lotus-FromDomain: PACDUN

Dear Tamer,

After six weeks the former dipped quite well, although there has been some pitting and deterioration. I have sent the former, by UPS, to you today. Please examine it and give me your thoughts about the durability of the Ti3SiC2 material. Thanks.

Regards,  
Stan G

Art Unit: 1732

Date: Fri, 18 Feb 2000 15:39:21 -0500  
From: sgromels@ansell.com  
Subject: Re: Ti3SiC2 Condom Formers  
To: Tamer El-Raghy <tamer.elraghy@drexel.edu>  
MIME-version: 1.0  
X-Lotus-FromDomain: PACDUN

Dear Tamer,

Our typical porcelain former that we use today usually lasts 2-3 weeks in our accelerated aging test. Ti3SiC2 lasted 6 weeks with potential to last longer. I am extremely encouraged by this. After you have examined the returned former, we'll talk about the next step. Thanks.

Regards,  
Stan G

Additionally, see the Examiner's response to arguments which sets forth the following positions:

1) *By accepting reimbursement for the making (machining) of a solid condom former, the claimed embodiment, a sale or offer for sale was made.*

While the Applicants' position is noted, it is also noted that a "sale" need not be for profit to bar a patent. In this case, a payment made to reimburse the Applicants for machining the claimed embodiment is deemed to be a public sale, even though no exchange of money occurred until after delivery of the former.

2) *The claimed embodiment was ready for patenting at the time it was provided to the public (Ansell Healthcare) more than one year prior to the instant application.*

Art Unit: 1732

The claimed embodiment was provided in a completed condom form to the public. The Examiner finds no evidence to show that further reduction to practice was required. As the 17 February 2000 e-mail from Ansell states, "the former dipped quite well". Thus, it appears to the Examiner that the claimed embodiment was ready for patenting on 17 February 2000.

*3) A bulk sample of the  $Ti_3SiC_2$  material was provided (See 26 August 1999 e-mail), and this is determined by the Examiner to be experimental use. However, the claimed embodiment (Claim 1) was subsequently provided to the public more than 1 year prior to the instant application.*

The Examiner submits that experimental use ends when the invention is actually reduced to practice. See MPEP 2133.03(e)(3). The Examiner submits that the responses contained in the 17 February 2000 and 18 February 2000 e-mails from Ansell provide evidence that the claimed embodiment was reduced to practice when it was proven that "the former dipped quite well" (17 February 2000 e-mail) and compared favorably side-by-side with the "typical" formers (18 February 2000). Thus, the Examiner submits that on 17 or 18 February 2000, the invention had been provided to the public and determined to work for its intended purpose. Furthermore, it is noted that the record provides no evidence that the Applicants made efforts to restrict access or disclosure of the testing results until the execution of the Sponsored Research Agreement.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1732

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1 and 2** are rejected under 35 U.S.C. 103(a) as being unpatentable over Adasch (USPN 5,194,204) in view of Barsoum (J. Am. Ceram. Soc., 79 [7] (1996) 1953-56). As to **Claim 1**, Adasch teaches glove formers (1:27) formed from silicon carbide (SiC) and (1:36-37) aluminum nitride (AlN). Adasch is silent to glove formers comprised of Applicant's composition. Adasch further teaches that a higher thermal conductivity (1:38-40), resistance to corrosion (1:48), and resistance to thermal shock (2:60-64) are desirable properties for glove formers. The examiner takes the position that corrosion and oxidation pertain to the same chemical process. Barsoum teaches (Page 1954, Section V, third paragraph) that it is obvious that  $Ti_3SiC_2$  is not susceptible to thermal shock, and withstands a greater maximum thermal shock than the best thermal shock-resistant ceramics. Barsoum further teaches (Page 1956, Section VIII, first paragraph) that  $Ti_3SiC_2$  is an excellent thermal conductor, it is easily machinable, and oxidation resistant. The references are properly combinable because both pertain to ceramics having high thermal conductivity, and also having resistance to thermal shock and corrosion. The examiner also notes that silicon carbide is a known decomposition product of  $Ti_3SiC_2$  to show that the two materials are closely related. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use  $Ti_3SiC_2$  as a glove former in view of Adasch's teaching that thermal shock resistance, high thermal conductivity, and corrosion resistance were favorable qualities for a glove former and in view of Barsoum's teaching that  $Ti_3SiC_2$  had all of these qualities. As to the new limitation of being

Art Unit: 1732

resistant to corrosion by acids and alkalis, the Examiner submits that this aspect is inherent in the combined former. As to **Claim 2**, Adasch and Barsoum teach that which is set forth above in the rejection of Claim 1 under 35 U.S.C. 103(a). Barsoum teaches  $\text{Ti}_3\text{SiC}_2$  specifically. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use  $\text{Ti}_3\text{SiC}_2$  as a glove former in view of Adasch's teaching that thermal shock resistance, high thermal conductivity, and corrosion resistance were favorable qualities for a glove former and in view of Barsoum's teaching that  $\text{Ti}_3\text{SiC}_2$  had all of these qualities.

8. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Adasch (USPN 5,194,204) in view of Barsoum (J. Am. Ceram. Soc., 79 [7] (1996) 1953-56), and further in view of Hadfield (USPN 1,635,576). Adasch and Barsoum teach the subject matter of Claim 1 above under 35 USC 103(a). Adasch and Barsoum are silent to the specific steps set forth by Applicant in Claim 3. Hadfield teaches a method for producing a latex or synthetic polymer glove comprising: (a) dipping the glove former in a liquid latex or synthetic polymer bath (Page 1, Line 88); (b) allowing the latex or synthetic polymer coating to dry on the former (Page 1, Line 93-94); and (c) releasing the formed latex or synthetic polymer glove from the former (Page 1, Line 57-58). It would have been prima facie obvious to one of ordinary skill in the art to use the method of Hadfield for forming gloves into the apparatus and composition of Adasch and Barsoum because doing so would produce useful gloves that could be sold for significant financial benefit.

Art Unit: 1732

9. **Claims 1-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson (USPN 5116551) in view of Barsoum (J. Am. Ceram. Soc., 79 [7] (1996) 1953-56). **As to Claim 1**, Davidson teaches glove formers (1:5-10) formed from silicon carbide (SiC) (2:44-60). Davidson is silent to glove formers comprised of Applicant's composition. Davidson further teaches that high thermal conductivity and thermal shock resistance are desirable properties for glove formers in order to avoid hot spots (2:54-60).

Barsoum teaches (Page 1954, Section V, third paragraph) that  $\text{Ti}_3\text{SiC}_2$  is not susceptible to thermal shock, and withstands a greater maximum thermal shock than the best thermal shock-resistant ceramics. Barsoum further teaches (Page 1956, Section VIII, first paragraph) that  $\text{Ti}_3\text{SiC}_2$  is an excellent thermal conductor, it is easily machinable, and oxidation resistant. The references are properly combinable because both pertain to ceramics having high thermal conductivity, and also having resistance to thermal shock and corrosion.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use Barsoum's material as a glove former in view of Davidson's teaching that thermal shock resistance and high thermal conductivity were favorable qualities for a glove former and Barsoum's teaching that  $\text{Ti}_3\text{SiC}_2$  provides these desirable qualities. **As to Claim 2**, Barsoum teaches  $\text{Ti}_3\text{SiC}_2$  specifically. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use Barsoum's material as a glove former in view of Davidson's teaching that thermal shock resistance and high thermal conductivity were favorable qualities for a glove former and Barsoum's teaching that  $\text{Ti}_3\text{SiC}_2$  provides these desirable qualities. **As to Claim 3**, Davidson teaches a method for producing a latex or synthetic polymer glove comprising: (a) dipping the glove former in a liquid latex or synthetic polymer bath (1:37

Art Unit: 1732

and 1:20-30); (b) allowing the latex or synthetic polymer coating to dry on the former (1:25); and (c) releasing the formed latex or synthetic polymer glove from the former (1:27-28).

### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Thursday, 7:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJD 11/7/05

MJD

  
MICHAEL P. COLAIANNI  
SUPERVISORY PATENT EXAMINER